# DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

### LAKE TROPHIC DATA

### MORPHOMETRIC:

Lake: GREGG LAKE		Lake Area (ha):	78.95
Town: ANTRIM		Maximum depth (m):	11.0
County: Hillsboro	ugh	Mean depth (m):	5.3
River Basin: Merrimack		Volume (m³):	4199000
Latitude: 43°02'10"		Relative depth:	1.1
Longitude: 71°59'08"	W	Shore configuration:	2.03
<pre>Elevation (ft):</pre>	1053	Areal water load (m/yr)	): 8.39
Shore length (m):	6400	Flushing rate (yr <sup>-1</sup> ):	1.60
Watershed area (ha):	1191.4	P retention coeff.:	0.57
% watershed ponded:	0.1	Lake type: natura	al w/dam

BIOLOGICAL:	7 February 1995	30 August 1994
DOM. PHYTOPLANKTON (% TOTAL)	1 SYNURA 35%	ANABAENA 20%
#	2 DINOBRYON 35%	MICROCYSTIS 20%
#	3 PERIDINIUM 15%	PERIDINIUM 15%
PHYTOPLANKTON ABUNDANCE (units/ml	)	
CHLOROPHYLL-A (µg/L)		2.13
DOM. ZOOPLANKTON (% TOTAL)	1 KERATELLA 37%	KERATELLA 61%
#	2 ROUND CILIATE SPP. 32%	CALANOID COPEPOD 17%
#	3 CYCLOPOID COPEPOD 8%	
ROTIFERS/LITER	67	73
MICROCRUSTACEA/LITER	21	36
ZOOPLANKTON ABUNDANCE (#/L)	129	109
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		8.3
BOTTOM DISSOLVED OXYGEN (mg/L)	8.5	0.1
BACTERIA (E. coli, #/100 ml) #	1	
#	2	
	3	

# SUMMER THERMAL STRATIFICATION:

#### stratified

Depth of thermocline (m): 6.7 Hypolimnion volume (m³): 118500 Anoxic volume (m³): 278500

CHEMICAL:	Lake: GREGG LAKE Town: ANTRIM				
	7 Febru	uary 1995	30 August 1994		
DEPTH (m)	3.0	6.0	3.0	7.0	9.0
pH (units)	5.7	5.7	6.5	6.0	5.9
A.N.C. (Alkalinity)	1.5	2.6	1.7	1.9	4.3
NITRATE NITROGEN	< 0.10	< 0.10	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.28	0.25	0.22	0.20	0.31
TOTAL PHOSPHORUS	0.008	0.011	0.011	0.012	0.032
CONDUCTIVITY (µmhos/cm)	26.4	27.6	29.4	29.4	35.3
APPARENT COLOR (cpu)	24	33	12	16	90
MAGNESIUM			0.27		
CALCIUM			1.5		
SODIUM			2.6		
POTASSIUM			0.32		
CHLORIDE	3	3	3		4
SULFATE	4	4	2		3
TN : TP	35	23	20		10
CALCITE SATURATION INDEX			4.4	:	

All results in mg/L unless indicated otherwise

#### TROPHIC CLASSIFICATION: 1994

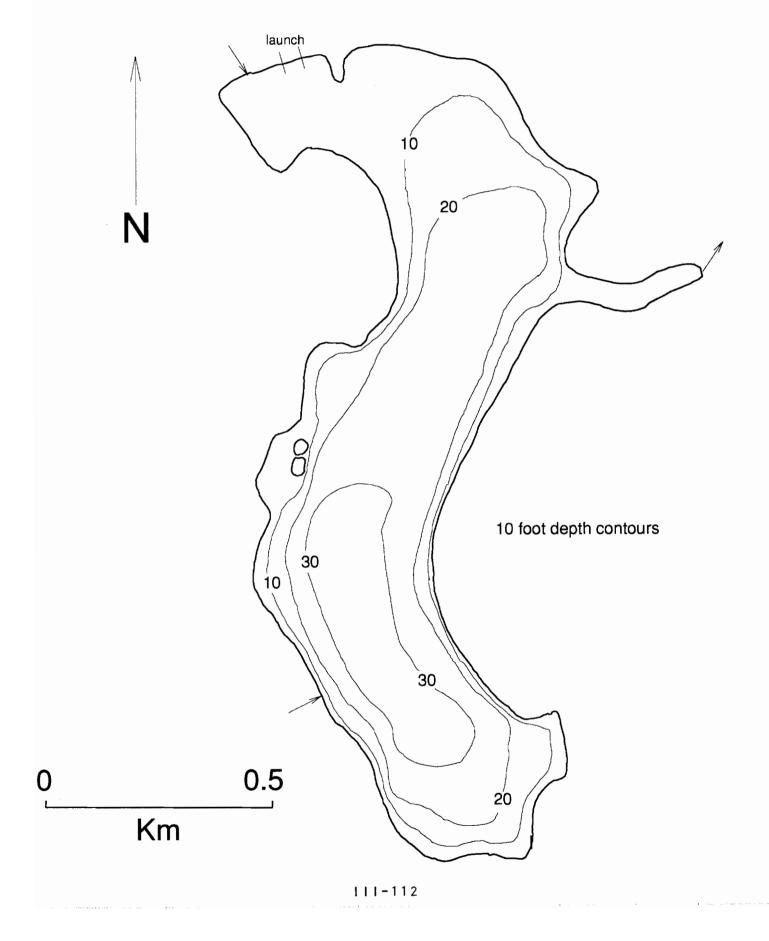
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	0	1	0	5	Oligo.

# COMMENTS:

- 1. This lake was previously surveyed and classified in 1978. There was no change in trophic classification and little change in water quality between the two dates, although water clarity more than doubled in 1994 (27 feet vs. 13 feet in 1978).
- 2. A boating speed limit of less than 10 mph within 500 feet of shore exists for this lake.
- 3. Although phytoplankton biomass was low and water clarity was good, blue-green algae dominated the net phytoplankton. When abundant, blue-greens form nuisance surface scums of algae.

# Gregg Lake

# **Antrim**



#### FIELD DATA SHEET

LAKE: GREGG LAKE

DATE: 08/30/94

TOWN: ANTRIM

WEATHER: SUNNY & BREEZY; 70'S

DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	20.1	8.5	93 %
1.0	20.1	8.5	93 %
2.0	20.0	8.5	93 %
 3.0	20.0	8.5	93 %
4.0	20.0	8.5	93 %
5.0	19.9	8.5	91 %
6.0	19.7	8.3	89 %
7.0	15.8	2.2	22 %
8.0	12.6	0.2	2 %
9.0	10.3	0.2	1 %
10.0	9.7	0.1	1 %

SECCHI DISK (m): 8.3

**COMMENTS:** 1. Relatively deep thermocline because of

BOTTOM DEPTH (m): 10.8

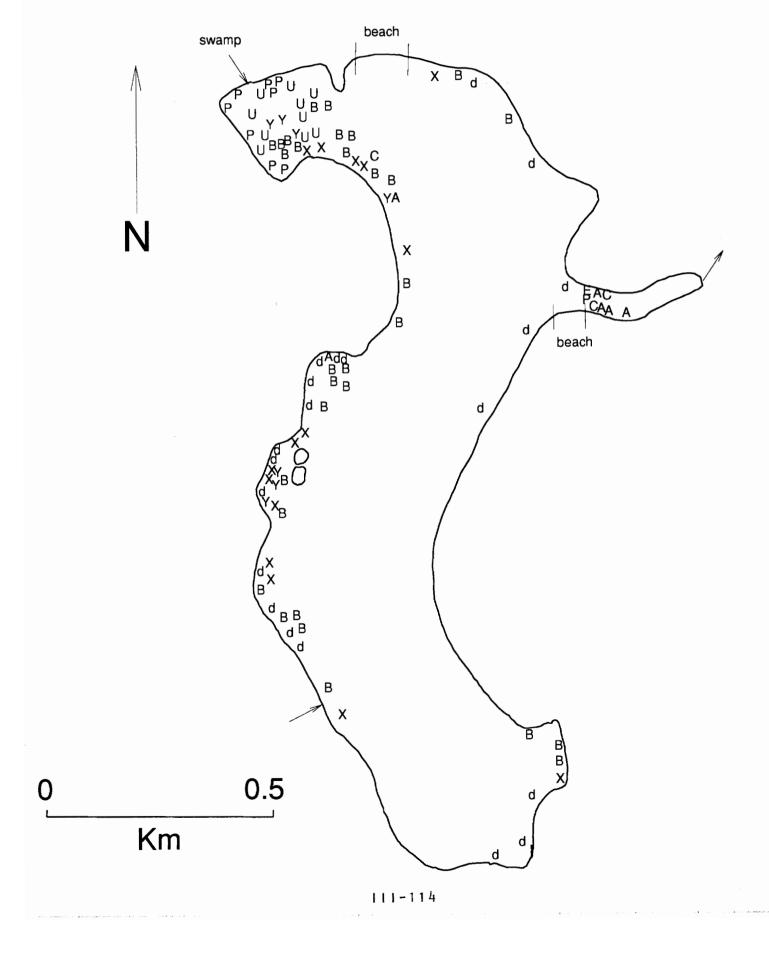
water clarity.

TIME: 1200

\*Dissolved oxygen values are in mg/L

# Gregg Lake

# **Antrim**



### AQUATIC PLANT SURVEY

LAK	E: GREGG LAKE	TOWN: ANTRIM	DATE: 08/30/94	
Vorr	PLANT	NAME	ABUNDANCE	
Key	GENERIC	COMMON	ABUNDANCE	
U	Utricularia	Bladderwort	Sparse	
P	Pontederia cordata	Pickerelweed	Sparse	
В	Brasenia schreberi	Water shield	Sparse	
Y	Nuphar	Yellow water lily	Sparse	
х		Sterile ribbon-like leaf	Sparse	
A	Sagittaria	Arrowhead	Sparse	
С	Cyperaceae	non-flowering sedge	Sparse	
d	Dulichium arundinaceum	Three-way sedge	Sparse	
E	Eriocaulon septangulare	Pipewort	Sparse	
		·		

# OVERALL ABUNDANCE: Scattered

# **GENERAL OBSERVATIONS:**

- 1. Plants were very common in the shallow northwest cove and in the outlet channel, but were sparse elsewhere for an overall rating of scattered.
- 2. The lower end of the outlet channel was inaccessible by boat because of thick plant growth.